Causal Relation Identification Using Convolutional Neural Networks and Knowledge Based Features

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Abstract : Causal relation identification is a crucial task in information extraction and knowledge discovery. In this work, we present two approaches to causal relation identification. The first is a classification model trained on a set of knowledge-based features. The second is a deep learning based approach training a model using convolutional neural networks to classify causal relations. We experiment with several different convolutional neural networks (CNN) models based on previous work on relation extraction as well as our own research. Our models are able to identify both explicit and implicit causal relations as well as the direction of the causal relation. The results of our experiments show a higher accuracy than previously achieved for causal relation identification tasks.